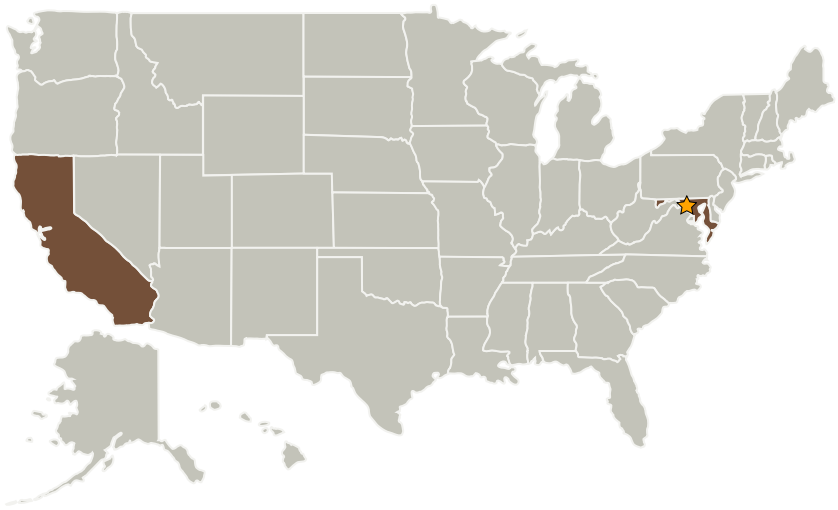
3D Multi-Channel Networked Visualization System for National LambdaRail, Phase I

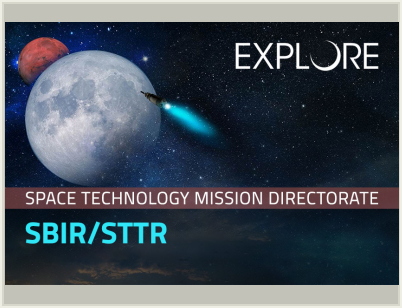
Completed Technology Project (2005 - 2005)

Project Introduction

National LambdaRail (NLR) offers unprecedented communication capabilities on the National and possibly International levels. Physical Optics Corporation (POC) proposes to develop a new 3D multichannel networked (3DMCN) system for visualizing large collections of Earth science data in a highly distributed and networked environment, compatible with the high speed National LambdaRail (NLR), with the necessary interfaces and video processing hardware/software. One of the critical issues in the development of such systems is the capability to transmit high-resolution (High Definition format) multi-channel images/video from a central rendering/processing location to multiple visualization stations, which can be thousands of miles apart. To address 3D video/telepresence on the NLR POC will develop special compression software for multi-channel transmission, removing both intra- and inter-channel redundancy. At the end of Phase I POC will demonstrate 3D video transmission over multi-Gigabit Ethernet channels in a laboratory environment. In Phase II a full system with multiple visualization stations connected to the NLR will be developed, including network interfaces, video compression, and 3D video stations.

Primary U.S. Work Locations and Key Partners





3D Multi-Channel Networked Visualization System for National LambdaRail, Phase I

Table of Contents

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

3D Multi-Channel Networked Visualization System for National LambdaRail, Phase I

Completed Technology Project (2005 - 2005)

Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Physical Optics Corporation	Supporting Organization	Industry	Torrance, California

Primary U.S. Work Locations	
California	Maryland

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Andrew Kostrzewski

Technology Areas

Primary:

- TX02 Flight Computing and Avionics
  - TX02.2 Avionics Systems and Subsystems
    - TX02.2.7 Data Reduction Hardware Systems